

# Calibration and Standardization of Large Surveys and Missions in Astronomy and Astrophysics



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## Calibration of the Atacama Large Millimeter Array (ALMA)

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Signal calibration at millimeter and submillimeter wavelengths requires the correction of amplitude and phase irregularities at several levels in an observatory system. Measurement calibration of the Atacama Large Millimeter Array (ALMA) requires that the signal amplitude, phase, and polarization be monitored for stability and purity. Instrumental bandpass, antenna positioning, antenna location, antenna and electronic delay, detector system optics, and antenna primary beam response also require regular monitoring and correction. Accuracy and repeatability requirements for each type of instrumental and science measurement calibration are driven by the ALMA science requirements. In this presentation I will give an overview of the ALMA calibration system and will discuss the methods and techniques used to effect calibration of the ALMA observatory system and scientific measurements.

**Primary author:** Dr MANGUM, Jeff (National Radio Astronomy Observatory)

**Presenter:** Dr MANGUM, Jeff (National Radio Astronomy Observatory)

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